IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently amended) A method of creating and using a stable plasma inside a solid wherein said stable plasma is a high density plasma of protons, deuterons, and/or tritons, said method comprising:

providing a solid with a lattice of such nature that the solid will allow the creation of stable plasma inside the lattice,

providing a source of particles, wherein said source of particles is selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere,

causing particles from said source of particles to enter the lattice and ~~vibrating~~ vibrate the solid to form a stable plasma inside the lattice, and

using the plasma,

wherein if the source of particles comprises the ionic solution, said causing comprises applying a current density of at least 100 mA/cm^2 to the ionic solution.

2. (Currently amended) An apparatus for creating and using a stable plasma inside a solid wherein said plasma is a high density plasma of protons, deuterons, and/or tritons, said apparatus including:

a solid material with a lattice of such nature that the solid will allow the creation of stable plasma inside the lattice,

a source of particles, wherein said source of particles is selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere,

means for moving particles from said source of particles into said lattice ~~and vibrating~~ to cause the solid to vibrate and form said particles into a stable plasma inside the lattice, and

means to use the plasma,

wherein if the source of particles comprises the ionic solution, said means for moving particles comprises a current density of at least 100 mA/cm^2 applied to the ionic solution.

3. (Currently amended) A method of creating and using a stable plasma inside a solid wherein said plasma is a high density plasma of protons, deuterons, and/or tritons, said method comprising:

providing a solid with a lattice containing cavities of such size that the cavities will allow the formation and retention of stable plasma inside the lattice,

providing a source of particles, wherein said source of particles is selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere,

causing particles from said source of particles to enter the lattice and vibrate the lattice to permit the particles to become a stable plasma inside the lattice as a result of the vibrations and the size of the cavities, and

using the plasma,

wherein if the source of particles comprises the ionic solution, said causing comprises applying a current density of at least 100 mA/cm^2 to the ionic solution.

4. (Currently amended) An apparatus for creating and using a stable plasma inside a solid wherein said plasma is a high density plasma of protons, deuterons, and/or tritons, said apparatus including:

a solid with a lattice containing cavities of such size that the cavities will allow the formation and retention of stable plasma inside the lattice,

~~means for causing the solid material to vibrate at a resonant frequency,~~

a source of particles, wherein said source of particles is selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere,

means to move particles from said source of particles into said lattice and cause the solid material to vibrate so that the particles become a stable plasma inside the lattice as a result of the vibrations and the size of the cavities, and

means for using the plasma,

wherein if the source of particles comprises the ionic solution, said means to move particles comprises a current density of at least 100 mA/cm^2 applied to the ionic solution.

5. (Currently amended) A method of creating and releasing a stable plasma of protons, deuterons, and/or tritons from at least two distinct media, comprising:

providing at least two media with particles, at least one of the media comprising a source of particles selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere,

providing a solid material with a lattice containing cavities of such size that the cavities will allow the formation and retention of plasma inside the lattice,

placing said solid material between said at least two media,

causing particles to enter the lattice from at least one of the two said media and ~~vibrating~~ vibrate the solid to form a stable plasma inside the lattice, and

removing the stable plasma from the solid material through at least one face of the solid material,

wherein if the source of particles comprises the ionic solution, said causing comprises applying a current density of at least 100 mA/cm^2 to the ionic solution.

6. (Currently amended) An apparatus for creating and releasing a stable plasma from at least two distinct media, comprising:

at least two media with particles, at least one of the media comprising a source of particles selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere,

a solid material with a lattice containing cavities of such size that the cavities will allow the formation and retention of plasma inside, said solid material between two of said two media,

means for causing particles to enter the lattice from at least one of the two said distinct media and ~~vibrating~~ vibrate the solid to form a stable plasma inside the lattice, and

means for removing the stable plasma from the solid material through at least one face of solid material,

wherein if the source of particles comprises the ionic solution, said means for causing particles comprises a current density of at least 100 mA/cm^2 applied to the ionic solution.

7. (Currently amended) A method of creating and using a stable plasma inside a solid wherein said plasma is a high density plasma of protons, deuterons, and/or tritons, said method comprising:

providing a solid with a lattice containing cavities of such size that the cavities will allow the formation and retention of stable plasma inside,

~~causing the solid material to vibrate at one of its resonant frequencies,~~

providing a source of particles, wherein said source of particles is selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere,

causing particles to enter the lattice and vibrate the solid at one of its resonant frequencies to form ~~and become~~ a stable plasma inside the lattice as a result of the vibrations and the size of the cavities, and

using the plasma,

wherein if the source of particles comprises the ionic solution, said causing comprises applying a current density of at least 100 mA/cm^2 to the ionic solution.

8. (Currently amended) An apparatus for creating and using a stable plasma inside a solid, said apparatus comprising:

a solid with a lattice containing cavities of such size that the cavities will allow the formation and retention of stable plasma inside the lattice,

a source of particles, wherein said source of particles is selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere,

means to move particles into the lattice and vibrate the lattice to form ~~become~~ a stable plasma inside the lattice as a result of the vibrations and the size of the cavities, and

means to use the plasma,

wherein if the source of particles comprises the ionic solution, said means to move particles comprises a current density of at least 100 mA/cm^2 applied to the ionic solution.

9. (Currently amended) A method of storing energy in the form of stable plasma wherein said plasma is a high density plasma of protons, deuterons, and/or tritons, said method comprising:

providing a solid material with a lattice of such nature that the solid will allow the creation of stable plasma inside the lattice,

providing a source of particles, wherein said source of particles is selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere,

causing particles to enter said lattice and ~~vibrating~~ to vibrate the solid to form to particles into a stable plasma,

storing said particles as stable plasma inside said lattice, and

producing energy from the stored plasma,

wherein if the source of particles comprises the ionic solution, said causing comprises applying a current density of at least 100 mA/cm^2 to the ionic solution.

10. (Previously presented) An apparatus for storing energy in the form of stable plasma wherein said plasma is a high density plasma of protons, deuterons, and/or tritons, said method comprising:

a solid material having with a lattice of such nature that the solid will allow the creation of stable plasma inside the lattice,

a source of particles selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere, the particles comprising a member selected from protons, deutrons, tritons, and mixtures thereof,

means to move said particles into said lattice and to vibrate the solid to form the particles into a stable plasma,

means to store said particles as stable plasma, and

means to produce energy from the stored plasma,

wherein if the source of particles comprises the ionic solution, said means to move said particles comprises a current density of at least 100 mA/cm^2 applied to the ionic solution.

11. (Currently amended) A method of storing and using particles under the form of stable plasma, said method comprising:

providing a solid material with a lattice of such nature that the solid will allow the creation of stable plasma inside the lattice,

providing a source of particles selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere, the particles comprising a member selected from protons, deutrons, tritons, and mixtures thereof,

causing particles from said source of particles to enter said lattice and ~~vibrating~~ vibrate the solid to form a stable plasma,

storing said particles as the stable plasma, and

using said particles,

wherein if the source of particles comprises the ionic solution, said causing comprises applying a current density of at least 100 mA/cm^2 to the ionic solution.

12. (Previously presented) An apparatus for storing and using particles under the form of stable plasma, said apparatus comprising:

a solid material with a lattice of such nature that the solid will allow the creation of stable plasma inside the lattice,

providing a source of particles selected from the group consisting of an ionic solution having a pH less than 1.0, plasma gas and a gas atmosphere, the particles comprising a member selected from protons, deutrons, tritons, and mixtures thereof,

means for moving said particles into said lattice and causing the solid to vibrate to form stable plasma,

means to store said particles as the stable plasma, and

means to use said particles,

wherein if the source of particles comprises the ionic solution, said means for moving said particles comprises a current density of at least 100 mA/cm^2 applied to the ionic solution.

13. (Withdrawn) The method of producing fusion using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

causing the solid material to vibrate at one of its resonant frequencies so that the cavities of the lattice are also vibrating,

causing particles to enter the lattice, and become a stable plasma inside,

using the vibrations and the size of the cavities to cause at least some of these particles to fuse and produce energy.

14. (Withdrawn) Apparatus for producing fusion using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

causing the solid material to vibrate at one of its resonant frequencies so that the cavities of the lattice are also vibrating,

causing particles to enter the lattice, and become a stable plasma inside,

using the vibrations and the size of the cavities to cause at least some of these particles to fuse and produce particles other than those which entered the lattice.

15. (Withdrawn) The method of creating particles from a stable plasma inside a solid. comprising:

causing the solid material to vibrate at one of its resonant frequencies so that the cavities of the lattice are also vibrating,

causing particles to enter the lattice, and become a stable plasma inside,

using the vibrations and the size of the cavities to cause at least some of these particles to fuse and produce particles other than those which entered the lattice.

16. (Withdrawn) Apparatus for providing particles using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

means for causing the solid material to vibrate at one of its resonant frequencies so that the cavities of the lattice are also vibrating,

means to move particles into the lattice, and become a stable plasma inside,

means to use the vibrations and the size of the cavities to cause at least some of the particles to fuse and produce particles other than those which entered the lattice.

17. (Withdrawn) The method of providing atomic particles, using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

causing the solid material to vibrate at one of its resonant frequencies,

causing particles to enter the lattice, and become a stable plasma inside,

using the vibrations and the size of the cavities to cause at least some of these particles to fuse and produce atomic particles.

18. (Withdrawn) Apparatus for creating atomic particles using a stable plasma inside a solid, comprising:

a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

means to cause the solid material to vibrate at one of its resonant frequencies,

means to move particles into the lattice, and become a stable plasma inside,

means to use the vibrations and the size of the cavities to cause at least some of the particles to fuse and produce atomic particles.

19. (Withdrawn) The method of creating beta and gamma particles, and neutrons using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

causing the solid material to vibrate at one 'of its resonant frequencies so that the cavities of the lattice are also vibrating,

causing particles to enter the lattice, and become a stable plasma inside,

using the vibrations and the size of the cavities to cause at least some of these particles to fuse and produce at least some of the following: beta particles, gamma particles and neutrons.

20. (Withdrawn) Apparatus for creating beta and gamma particles. and neutrons using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

means for vibrating the solid material at one of its resonant frequencies,

means to move particles into the lattice, and become a stable plasma inside,

means to use the vibrations and the size of the cavities to cause at least some of the particles to fuse and produce at least some of the following: beta particles, gamma particles, and neutrons.

21. (Withdrawn) The method of creating new elements using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

causing the solid material to vibrate at one of its resonant frequencies so that the cavities of the lattice are also vibrating,

causing particles to enter the lattice, and become a stable plasma inside,

using the vibrations and the size of the cavities to cause at least some of these particles to fuse with the nuclei of the atoms of the lattice and produce new elements.

22. (Withdrawn) Apparatus for creating new elements using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

means to cause the solid material to vibrate at one of its resonant frequencies so that the cavities of the lattice are also vibrating,

means to move particles into the lattice, and become a stable plasma inside,

means to use the vibrations and the size of the cavities to cause at least some of the particles to fuse with the nuclei of the atoms of the lattice and produce new elements.

23. (Withdrawn) The method of producing isotopes of the atoms of a lattice using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

causing the solid material to vibrate at one of its resonant frequencies, causing particles to enter the lattice and become a stable plasma inside,

using the vibrations and the size of the cavities to cause at least some of these particles to fuse with the nuclei of the atoms of the lattice and produce isotopes of the atoms of the lattice.

24. (Withdrawn) Apparatus for producing isotopes of the atoms of a lattice using a stable plasma inside a solid, comprising:

a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

means to cause the solid material to vibrate at one of its resonant frequencies so that the cavities of the lattice are also vibrating,

means to move particles into the lattice, stable plasma inside,

means to use the vibrations and the size of the cavities to cause at least some of the particles to fuse with the nuclei of the atoms of the lattice and produce isotopes of the atoms of the lattice.

25. (Withdrawn) The method of creating atoms of a different class than those of a lattice using a stable plasma inside a solid, comprising:

providing a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

causing the solid material to vibrate at one of its resonant frequencies so that the cavities of the lattice are also causing particles to enter the lattice, and become a stable plasma inside,

using the vibrations and the size of the cavities to cause at least some of these particles to fuse with the nuclei of some of the atoms of the lattice and transform said atoms into different atoms.

26. (Withdrawn) Apparatus for transforming atoms that are in a lattice using a stable plasma inside a solid, comprising:

a solid material with a lattice containing cavities of such size that they will allow the formation and retention of stable plasma inside,

means to cause the solid material its resonant frequencies so that the cavities of the lattice are also vibrating,

means to move particles into the lattice, and become a stable plasma inside,

means to use the vibrations and the size of the cavities least some of the particles to fuse with the nuclei of some of the atoms of the lattice and transform said atoms into different atoms.

27. (Withdrawn) The method of transferring a stable plasma between two solid materials, comprising:

providing first and second pieces of solid material, each having one face contiguous with a face of the other,

forming stable plasma inside one of the pieces,

allowing at least some of that stable plasma to move from one piece to the other,

removing the new piece with transferred stable plasma inside and

using said transferred plasma.

28. (Withdrawn) Apparatus for transferring a stable plasma between two solid materials, comprising:

first and second pieces of solid material, each having one face contiguous with one of the face of the other,

means to form stable plasma inside one of the pieces,

means to move at least some of that stable plasma from one piece to the other,

removing the new piece with transferred stable plasma inside and using transferred plasma.

29. (Withdrawn) The method of melting the surface layer of a solid material, comprising:

providing a solid material with a lattice of such nature that it will allow the creation of stable plasma inside,

causing particles to enter said lattice with such energy that they will melt the surface layer of the solid material.

30. (Withdrawn) Apparatus for melting the surface layer of a solid material, comprising:

providing a solid material with a lattice of such nature that it will allow the creation of stable plasma inside,

providing the means to move particles into said lattice with such energy that they will melt the surface layer of the solid material.

31. (Withdrawn) The method of creating and using a highly concentrated burst of particles, comprising:

providing a solid material with a lattice of such nature that it will allow the creation of stable plasma inside,

causing a first group of particles to enter the lattice and become a stable plasma inside,

causing a second group of particles to enter said lattice with a high energy, fuse with at least some of the particles of the first group and produce a third, highly concentrated, group of particles other than those which entered the lattice, and

using said third, highly concentrated, group of particles.

32. (Withdrawn) Apparatus for creating and using a highly concentrated burst of particles, comprising:

providing a solid material with a lattice of such nature that it will allow the creation of stable plasma inside,

means to move a first group of particles into the lattice and become a stable plasma inside,

means to move a second group particles into said lattice with a high energy, fuse with at least some of the particles of the first group and produce a third, highly concentrated, group of particles other than those which entered the lattice, and

means for using said third, highly concentrated, group of particles.

33. (Withdrawn) The method of producing energy and hydrogen molecules using an electrochemical mechanism inside a solid, including:

providing a solid material with a lattice containing cavities of such size that they will allow the creation of energy and hydrogen molecules inside thereof,

causing protons to enter said lattice and react with electrons therein to produce and energy and hydrogen molecules.

34. (Withdrawn) Apparatus for producing energy and hydrogen molecules using an electrochemical mechanism inside a solid, including:

a solid material with a lattice containing cavities of such size that they will allow the creation of energy and hydrogen molecules inside thereof,

means for causing protons to enter said lattice and react with electrons therein to produce and energy and hydrogen molecules.

35. (Withdrawn) The method of creating and using a stable plasma inside a solid, including:

providing a solid material with first and second lattices, the first containing cavities of such size that they allow the formation and retention of plasma inside, the second containing cavities of such size they allow the production of energy and hydrogen molecules inside, and cavities of such size that they allow the formation and retention of plasma inside,

causing protons to enter the second lattice to react with electrons therein to produce energy and hydrogen molecules inside,

causing particles to enter the first and second lattices and become a stable plasma inside, and

using said plasma.

36. (Withdrawn) Apparatus for creating and using a stable plasma inside a solid, including:

a solid material with first and second lattices, the first containing cavities of such size that they allow the formation and retention of plasma inside, the second containing cavities of such size they allow the production of energy and hydrogen molecules inside, and cavities of such size that they allow the formation and retention of plasma inside,

means for moving protons into .the second lattice to react with electrons therein to produce energy and hydrogen molecules inside,

means for moving particles into the first and second lattices and become a stable plasma inside, and

means for using said plasma.

37. (Withdrawn) The method of creating and using a stable plasma inside a solid, including:

providing a solid material with a lattice containing first and second cavities, the first cavities being of such size that they will allow the formation and retention of stable plasma inside, the second cavities being of such size that they will allow the production of energy and hydrogen molecules inside,

causing particles to enter said lattice to produce energy, hydrogen molecules and stable plasma,

pulsing the entry of said particles to cause the solid material to vibrate at one of its resonant frequencies, and

using the stable plasma.

38. (Withdrawn) Apparatus for creating and using a stable plasma inside a solid, including:

a solid material with a lattice containing first and second cavities, the first cavities being of, such size that they will allow the formation and retention of stable plasma inside, the second cavities being of such size that they will allow the production of energy and hydrogen molecules inside,

means for causing particles to enter said lattice and produce energy, hydrogen molecules and stable plasma,

means for pulsing the entry of said particles and cause the solid material to vibrate at one of its resonant frequencies, and

means for using the stable plasma.

39. (Previously presented) A method according to claim 1, wherein the source of particles comprises the ionic solution.

40. (Previously presented) A method according to claim 1, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

41. (Previously presented) A method according to claim 1, further comprising applying periodical impulses to the solid at a resonance frequency of the solid.

42. (Previously presented) An apparatus according to claim 2, wherein the source of particles comprises the ionic solution.

43. (Previously presented) An apparatus according to claim 2, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

44. (Previously presented) An apparatus according to claim 2, further comprising means for applying periodical impulses to the solid at a resonance frequency of the solid.

45. (Previously presented) A method according to claim 3, wherein the source of particles comprises the ionic solution.

46. (Previously presented) A method according to claim 3, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

47. (Previously presented) A method according to claim 3, further comprising applying periodical impulses to the solid at a resonance frequency of the solid.

48. (Previously presented) An apparatus according to claim 4, wherein the source of particles comprises the ionic solution.

49. (Previously presented) An apparatus according to claim 4, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

50. (Previously presented) An apparatus according to claim 4, further comprising means for applying periodical impulses to the solid at a resonance frequency of the solid.

51. (Previously presented) A method according to claim 5, wherein the source of particles comprises the ionic solution.

52. (Previously presented) A method according to claim 5, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

53. (Previously presented) A method according to claim 5, further comprising applying periodical impulses to the solid at a resonance frequency of the solid.

54. (Previously presented) An apparatus according to claim 6, wherein the source of particles comprises the ionic solution.

55. (Previously presented) An apparatus according to claim 6, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

56. (Previously presented) An apparatus according to claim 6, further comprising means for applying periodical impulses to the solid at a resonance frequency of the solid.

57. (Previously presented) A method according to claim 7, wherein the source of particles comprises the ionic solution.

58. (Previously presented) A method according to claim 7, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

59. (Previously presented) A method according to claim 7, further comprising applying periodical impulses to the solid at a resonance frequency of the solid.

60. (Previously presented) An apparatus according to claim 8, wherein the source of particles comprises the ionic solution.

61. (Previously presented) An apparatus according to claim 8, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

62. (Previously presented) An apparatus according to claim 8, further comprising means for applying periodical impulses to the solid at a resonance frequency of the solid.

63. (Previously presented) A method according to claim 9, wherein the source of particles comprises the ionic solution.

64. (Previously presented) A method according to claim 9, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

65. (Previously presented) A method according to claim 9, further comprising applying periodical impulses to the solid at a resonance frequency of the solid.

66. (Previously presented) An apparatus according to claim 10, wherein the source of particles comprises the ionic solution.

67. (Previously presented) An apparatus according to claim 10, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

68. (Previously presented) An apparatus according to claim 10, further comprising means for applying periodical impulses to the solid at a resonance frequency of the solid.

69. (Previously presented) A method according to claim 11, wherein the source of particles comprises the ionic solution.

70. (Previously presented) A method according to claim 11, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

71. (Previously presented) A method according to claim 11, further comprising applying periodical impulses to the solid at a resonance frequency of the solid.

72. (Previously presented) An apparatus according to claim 12, wherein the source of particles comprises the ionic solution.

73. (Previously presented) An apparatus according to claim 12, wherein the plasma has a density of 10^{23} to 10^{24} particles of protons, deuterons, and/or tritons per cubic centimeter inside the lattice.

74. (Previously presented) An apparatus according to claim 12, further comprising means for applying periodical impulses to the solid at a resonance frequency of the solid.